- What is ozone?

  Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found;

  Good Ozone
  Good ozone occurs naturally in the upper atmosphere, 6 to 30 miles above the Earth's surface, where it forms a protective layer that shields us from the sun's harmful ultraviolet rays. This beneficial ozone is gradually being destroyed by manmade chemicals. When the protective ozone "layer" has been significantly depleted; for example, over the North or South Pole; it is sometimes called a "hole in the ozone."

  Bad Ozone
  In the Earth's lower atmosphere, near ground level, ozone is formed when pollutants (NOx and VOC) emitted by cars and other internal combustion engines, power plants, industrial boilers, refineries, chemical plants, and other sources chemically react in the presence of sunlight. Ozone at ground level is considered a harmful air pollutant.

- How is ozone formed?

  Ozone is formed by the reaction of sunlight on air containing volatile organic compounds (VOC) and nitrogen oxides (NOx). VOC and NOx are produced by mobile sources (cars, boats, heavy construction equipment), industry, biogenic/natural sources such as methane produced by wetlands and livestock, and household activities such as using gas powered lawn equipment and using paint thinners.

- Do you mean that ozone is not emitted by chemical plants and refineries like I thought?

  Chemical plants and refineries emit ozone precursors (VOC and NOx) that, when combined with sunlight, produce ozone. These precursors are produced by the burning of fossil fuels, venting of gases, and other

production activities such as fugitive emissions from leaking components.

- How does ozone affect me?

  High levels of ozone can affect lung function and irritate the respiratory system in sensitive populations like children and the elderly. It can worsen chronic health conditions like bronchitis, emphysema, and asthma.

- What is the purpose of the ozone standard?

  The national ambient air quality standard (NAAQS) for ozone is designed to set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly.

- What was the previous ozone standard and what did the standard changing to?

  The previous ozone standard was 0.08 parts per million (ppm) for an 8-hour averaging time. EPA announced the new 8-hour ozone standard of 0.075 ppm on March 12, 2008.

- What does nonattainment mean and what is considered an exceedance?

  Nonattainment means that the ambient air quality in an area does not meet the NAAQS. An exceedance is an 8-hour period where the *average* ozone measured at a monitoring site is above the standard. A violation of the standard occurs when the 3 year average of a monitor's 4th highest reading is equal to or above the standard and then the area is designated as nonattainment.

  This 3 year average for an area is called the design value. A design value is a statistic that describes the air quality status of a given area relative to the level of the NAAQS.

- Why did the ozone standard change?

  The Clean Air Act requires that the science upon which the NAAQS are based be reviewed every 5 years. The new standard is set using modeling data, as well as with surveys of public health and the environment.

- How do we improve our design value and achieve attainment?

  Ways of improving our design value and achieving attainment include planning and rule making to reduce industrial ozone forming emissions, planning and rule making to reduce mobile source ozone forming emissions, and voluntary programs.

- What causes Louisiana parishes to be designated nonattainment?

  A combination of air pollution and unfavorable meteorological conditions in the summer months cause area monitors to register ozone readings above the standard. Ozone pollution is a concern during the summer months when the weather conditions needed to form it - lots of sun, hot temperatures - normally occur. Although these precursors often originate in urban areas, winds can carry NOx hundreds of miles, causing ozone formation to occur in less populated regions as well.

- How will the new ozone standard affect me?

  The new ozone standard may affect everyday activities. Parishes that were in attainment may be designated to nonattainment status even though ozone levels in their area may have continued to decrease. For the general public this may mean new rules on fuels used in vehicles, new tests on your car when renewing inspection stickers, and restrictions on when lawns can be mowed and when to fuel your cars on days when ozone levels are predicted to be high.

- Does the new ozone standard mean air quality is getting worse?

  No, the new ozone standard does not mean that air quality is getting worse. It simply means that the standard by which air quality is measured is being lowered. A tremendous amount of progress has already been made in reducing the state's ozone levels especially in the areas that have already been designated as nonattainment.

- What are the consequences of being designated a nonattainment area?

  Possible consequences being designated to a nonattainment area may include loss of industry and economic development in and around the area, loss of federal highway and transit funding, technical and formula changes to consumer products such at paint, and greater oversight by EPA.

- How will the new ozone standard affect industry in my area?

  Industry in the new nonattainment areas will be affected by additional restrictive permitting requirements. The most effective emission controls will have to be installed without consideration of cost. Also, new emission sources in the area will have to be offset or the unit cannot be built. This means in order for new sources to be built, companies will have to reduce emissions from other sources.

- Aren't industrial air emissions the primary cause of ozone formation?

  Industrial air emissions are a major cause of ozone formation. However, mobile sources such as automobiles also emit ozone forming pollution. Emissions from mobile sources in highly populated areas are also a major contributor to ozone formation.

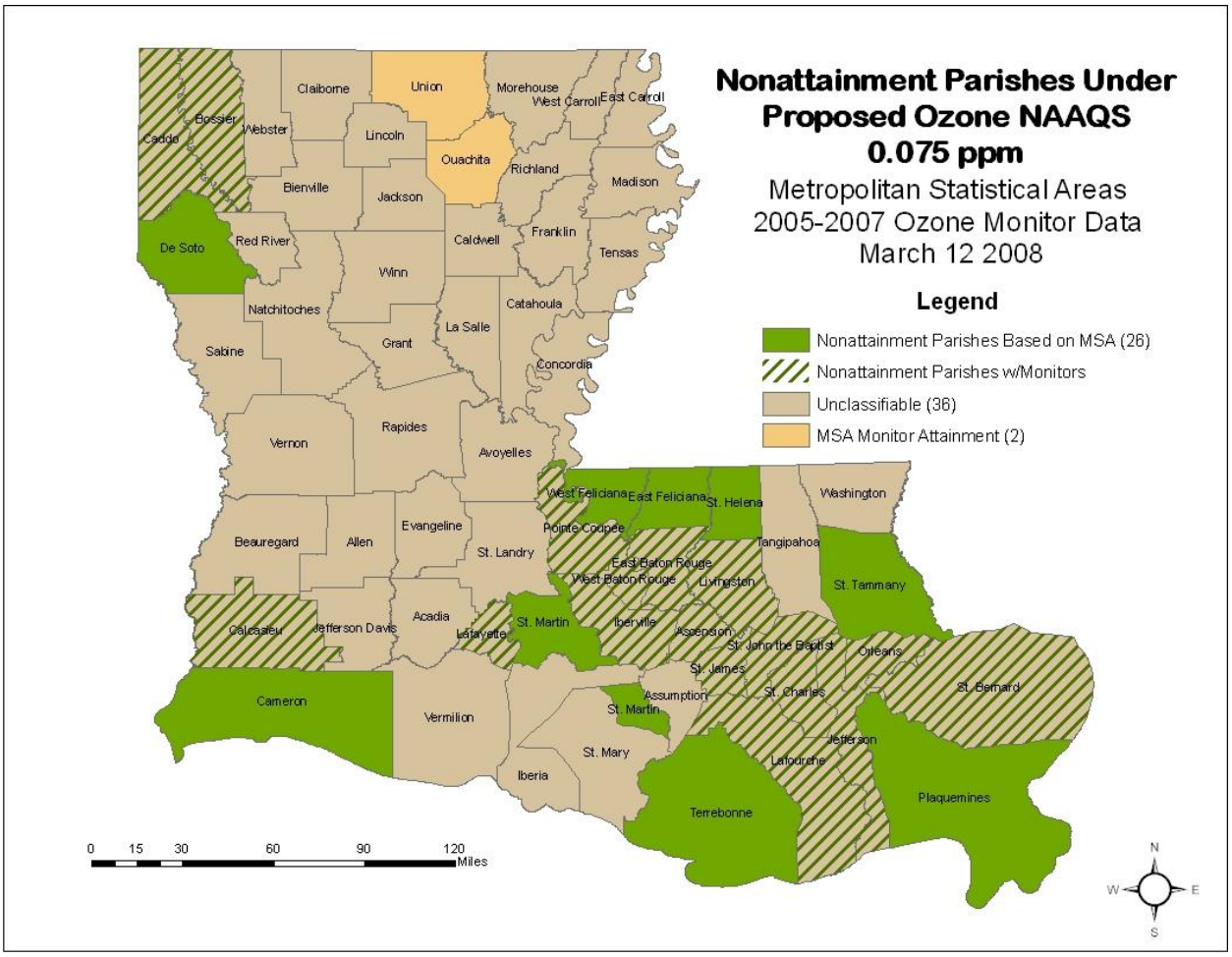
- What can I do to help reduce emissions of ozone forming compounds?

    - Avoid idling your motor vehicle excessively.
    - Conserve energy and recycle.
    - Do not refuel your vehicle or lawn mower on Ozone Action Days. If you must refuel, do so after dark—remember that sunlight assists ozone-forming reactions. (1 lawnmower = 37 cars in exhaust emissions)
    - Keep your vehicle well tuned.
    - Limit driving; carpool, walk, ride a bicycle, and combine trips.
    - Start charcoal with an electric lighter or a newspaper-fueled "chimney" instead of lighter fluid.
    - Use public transportation.

- What Are Ozone Action Days?

    Certain cities with high levels of ground-level ozone have started a program called Ozone Action Days. The voluntary initiative was put in effect by cooperative efforts among government, environmental, and business organizations in order to reduce ground-level ozone. Ozone Action Days are most often on hot days, above 90 degrees Fahrenheit, with little or no wind blowing. Predictions that a day may be an Ozone Action Day are announced on television and radio news the day before to warn the general public that their actions are especially important in preventing air pollution on those days. The warnings also warn the general public to be careful on those days because the air quality is so poor it could affect asthmatics and cause other respiratory problems.

- What parishes will be affected by the standard change?



Map generated by LDEQ Air Planning Section

Links to ozone information sources

http://www.epa.gov/air/ozonepollution
http://www.epa.gov/ozonedesignations/faq.htm
http://www.epa.gov/air/actions
http://www.nsc.org/library/facts/ozone.htm
http://www.airnow.gov/index.cfm?action=jump.jump_ozone